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DEVELOPMENT OF RESEARCH TOOLS AND METHODS FOR MARINE SPATIAL PLANNING

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Marine spatial planning has been widely applied in the leading maritime countries. However, it is not so common in Russia, since the relevant legal framework is largely absent. Spatial planning shares a number of features with marine planning, especially when it comes to the tools, principles, and methods. The differences mainly concern characteristics of the planning object; principles of delineating the borders of territories and water areas; and the authorities responsible for regulation. The use of marine space, its parts, and sea (water) is covered by a number of laws of the Russian Federation. However, a mechanism for marine planning has yet to be integrated into Russian legislation. The Strategy for the Development of Maritime Activities until 2030 sets the task of developing such mechanism. In this article we address key strategies that can be used in the development of marine planning tools: assessment of applicability of the existing legal framework to water relations; territorial development and strategic planning; and possible distribution of authority between different governing bodies in this new field of administrative activity.

Key words: spatial planning, marine planning, strategic socioeconomic planning, territory, water area

Marine spatial planning has gained global recognition [13; 21] and has become a conventional tool in a number of European countries (Germany [16], Finland [17], Sweden [16], Poland [19]). Marine plans are also being developed for the Baltic Sea basin [18; 20; 22]. In Russia, marine planning is not a widely acknowledged type of water management, which is especially surprising given the recent launch of the federal target programme “World Ocean” [8]. It is apparent, however, that internationally recognized marine planning mechanisms (understood here

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as the system of legislative documents and methodological guidelines) can not be fully transferred to Russian conditions due to the differences in the system of government and the structure and functions of authorities.

While certain maritime activities are provided with sufficient legal regulation [1; 4], the overall task of development of marine spatial planning was first acknowledged in the *Strategy for the Development of Maritime Activities until 2030*. An appendix to this document entitled “Developing Major Maritime Activities in the Russian Federation” suggests that one particular maritime activity, “marine management”, should “employ and develop a set of tools for marine planning”. According to the authors of the Strategy, this field of activity is an integral part of more general task of “introduction and development of integrated cross-industry management at all levels involving marine management as an indispensable object of administrative activities aimed to overcome conflicts between the different types of management and marine environment protection”.

A number of Russian laws address the concepts of maritime space, its parts and sea management (water management), as well as their types and regulation. However, a comprehensive marine planning mechanism has not been developed at the legislative level.

Here I will try and formulate some approaches to the development of spatial planning tools in the framework of current governing documents and management system. These approaches were put forward within a study carried out in the framework of the “World Ocean” federal target programme.

In my view, any development of such tool should reflect two important issues:

1. There is a need to distribute authority in the field of marine planning between different territorial agencies. This should be done on the basis of the analysis of the current legislative framework for planning and activities related to marine planning.

2. Considering the often stressed ‘integrated’ nature of management within marine planning, there is a need for a wider (geographical) approach to the evaluation of the content of existing tools accompanied by identification of their role within the whole system of nature management [11].

Marine planning tools should then be differentiated by the level of document production in accordance with the current mandate of authorities (table 1).

When identifying approaches to the formation of marine planning tools one must take into account:

- the role of maritime activities in the general system of marine water management;
- geographical association of maritime activities with certain parts of the basin and coastal zone;
- functional zoning of maritime space and methods of selecting locations for the (planned) objects and zones.

Table 1

Marine Planning Documents: Main Types, Objectives and Key Components

Type of Document	Objectives and Outcomes	Key Components
1. Conceptual marine management level	Comprehensive harmonisation of all marine (water) management activities with other nature management activities within basin zones (the basin approach) on the interagency basis	1. Recommendations on integrated (harmonised) approach to the exploitation of water bodies. 2. Basin zoning according to water management activities
2. Level of rules and regulations	1. Expansion of the governing documents (Water, Urban Development, Land and other codes) and other industry-specific documents (according to types of maritime activities). 2. Supplementary rules for individual water management activities in the marine area.	1. Legally binding rules regulating the exploitation of marine areas reflecting the conceptual recommendations for harmonising different types of marine and territorial management
3. Level of forecasts and projects (programmes)	1. State target programmes for marine management. 2. Comprehensive socioeconomic development programme harmonising the objectives of territorial and continuous marine area development. 3. Programmes for the use and protection of water objects within the subjects of the Russian Federation	1. Programme initiatives aimed at achieving individual objectives of national importance 2. Initiatives aimed at harmonization of various activities within the coastal and marine areas, including creation of objects of regional importance 3. Initiatives aimed at joint exploitation of individual water objects (including the basin) within the borders of a subject of the Russian Federation
4. Planning level	The methods of implementing programme initiatives through proving their association with certain part of the marine area, including feasibility studies and the deployment of objects of federal and local importance	1. Substantiation of localisation of individual water management activities (including marine economy). 2. Spatial harmonisation of territory and water area management activities. 3. Development of programmes for implementing decisions on marine planning
5. Information level	1. Hydrogeographic and water management zoning. 2. Maintaining a national water register. 3. Expansion of the federal database for territorial planning and the system of information support for urban development activities with information applicable to the field of marine planning	Initial information on the condition and types of exploited water objects and the territory affecting decisions in the field of marine planning



These factors are examined in detail below.

1. Most maritime activities are a part of an integrated water management system, which is regulated by the Water Code of the Russian Federation. Some activities (for example, shipbuilding) are only loosely connected to the use of marine environment, though they can adversely affect it.

The association of maritime activity with the use of water for domestic purposes is of special importance. In this connection, the distinction between 'isolated' and 'combined' types of water use made within the Water Code constitutes a significant development. 'Isolated' types of water use include, for instance, military maritime activities, border guarding, and commercial fishing. In case of 'combined' water use, of special importance are the issues of legal regulation of activities in certain water areas and the prevention of adverse effects on marine environment.

The regulation of maritime space use is closely tied to the requirement to conclude a water use contract (Water Code, article 11), which is obligatory for most types of water uses. However, maritime navigation, small vessel traffic, reproduction of marine biological resources, fishing, commercial fishing, hunting, and dredging in sea port areas do not require such a contract.

2. The legal framework mentioned above and other types of sea water management are closely connected to their special localisation. Its major features are as listed as follows:

- in the horizontal section of maritime space, such localisation is associated with the basin, coastal zone or islands contained within the basin;
- in the vertical section, maritime space can be divided into water surface, water column, and sea floor.

While some maritime activities are carried out in multiple zones (vertically and horizontally), other activities concentrate in one or several zones. The features mentioned above determine the degree of anthropogenic effect of certain activities on different types of marine management and the condition of marine environment; as well as its connection with territorial planning.

3. One major result of marine planning is the possibility to identify functional zones and position to-be-built objects for further review of the authorities at federal, regional, and municipal levels.

The implementation of the majority of maritime activities is connected with the identification of certain zones (with more or less clearly defined borders) in the marine area, within which an activity is to be implemented. This is a tentative breakdown of major types of such activities:

- marine and multimodal transport, port development;
- military maritime activities;
- border patrolling;
- fishing and fish farming;
- mineral prospecting and extraction.

Thus, marine planning is especially relevant for those marine areas, where all the mentioned activities develop intensively (for example, in the Baltic Sea basin) or where their development is expected in a short-term perspective (the Arctic) [7; 8; 12]. At the same time, one should not forget that other marine management activities also require zoning, and each zone, as well as each activity, will have its own requirements and limitations. Some of the activities are regulated by the Water code and industry-specific federal

laws. For others, it's municipal authorities who establish the rules — for examples, the rules regulating domestic use of water objects. Local authorities can also impose a variety of restrictions on the use of water objects.

The legal tools of marine planning should also include requirements for justifying the positioning of newly created objects (zones) in the marine area. These objects are classified according to the jurisdiction of state and municipal authorities, as well as on the basis of their position in certain functional zones (localisation zones). A most general classification should take into account the features of such zone's location, namely, whether an object is to be positioned in the mixed zone (coastal zone and marine area) or in the marine area alone.

The creation of objects in 'mixed' zones should be harmonised with their suggested location in corresponding territorial planning and urban zoning documents. At the same time, one should take into account individual requirements for major construction objects (both linear and non-linear), and the territories and zones covered by planning. The objects created in the marine area are often of temporary nature (floating platforms, etc.). At the same time, they are, as a rule, associated with a certain functional zone (for example, mineral extraction zone). In any case, however, the placement of new objects requires consideration of regulations and limitations relevant to the mode of use of the functional zone they are located in.

The development of exclusively coastal objects should take into account the provisions of corresponding territorial planning and urban zoning documents.

To sum up, I can propose the tools for the marine planning to be developed with regards to the following:

1. The established nature — both coastal and marine — management system, including the interests of population (represented by municipalities).
2. The authority and functions of state and municipal institutions of different territorial levels that are responsible for planning activities.

The tools for marine planning should take into account the features of functional zone manifested in the major type of its uses and the system of limitations ensuring the harmonisation of different marine management activities and protection of marine environment.

Most activities are regulated by laws and decrees of public authorities, as well as by legal acts issued by municipalities. The Water Code of the Russian Federation deserves a special mention, since it water relations and individual types of water management. Thus, there is an urgent need to expand and specify its provisions relating to maritime activities. The current version of the Water Code hardly takes into account the features of seas as a specific type of water objects. The responsibilities of authorities in the field of regulating marine management have not been clearly formulated; the need for marine planning has not been discussed. In this connection, one can propose the following strategies for improving the Water Code.

- The current governing principle of water legislation is the regulation of water relations within basin zones (i. e. 'the basin approach') (article 3, part 1, clause 9). However, the development of this principle suggests the formulation, approval, and implementation of a scheme of integrated exploitation and protection of water objects of only a part of the basin zone (river basin). Basin councils making recommendations for basin zones are a key unit of management in the field of exploitation and protection of water objects. In

effect, they can be implemented only in the framework of the schemes mentioned above (within one part of a basin zone). Thus, since basin council includes a variety of members (representatives of authorities and NGOs), there is a need to commission this institution with the development of recommendations for all types of water management (including individual maritime activities). These recommendations should be put in effect in the process of development of marine planning tools.

Chapter 4 of the Water Code (“Management of the use and protection of water objects”) should be amended with an extra article on marine planning, which should also be cross-referenced in other articles of the Water Code relating to the management, regulation of water use activities, and protection of water objects.

- Marine planning should be harmonised with territorial planning, which is regulated by the Urban Development Code of the Russian Federation [5]. Possible trajectories of improving the Urban Development code for the needs of marine planning can be as follows:

1. Since the major task of territorial planning is to justify the positioning of objects of federal, regional, and local importance, in case of combined marine and coastal location of these objects, the requirements and approaches to said justifying should be reflected in the Urban Development Code (and in the Water Code). This is also true about any construction works in the marine area (since construction is regulated by the Urban Development Code). One should also take into account that some maritime activities are carried out only in the coastal zone — for instance, shipbuilding and port development. Their specific features should also be reflected in the Urban Development Code.

2. Another important task of territorial planning is the identification of functional zone boundaries, which should be harmonised with the identification of functional zones in the marine area, especially if these zones fall in the same category (for example, special protection coastal and marine areas). There is a need to take into account requirements and limitations set to identify coastal and marine zones belonging to different types. The problem is that, pursuant to the Urban Development Code, functional zones are identified only within general layouts of residential areas requirements for legal settlement; in case of marine planning, there is a need to identify such zones in marine areas stretching beyond the boundaries of municipalities (urban or rural residential areas).

Moreover, there is a discrepancy between the scope of existing problems and the mandates of corresponding authorities in the field of land and water use. The Urban Development Codes suggest the formulation of certain land use and development rules, with the help of which rural and urban municipalities then regulate all types of land use within their borders. In case of water use, the rules of domestic water use are formulated for municipal districts only.

3. Territorial and marine planning issues should be harmonised with the legal and methodological framework for strategic planning. As it is today, the latter does not cover marine planning at all. Similar to territorial planning, marine planning should be interpreted as a “spatial projection” of the implementation of strategic planning documents for marine areas. Documents specified by the legislation on strategic planning (strategies, forecasts, programmes) should relate both to the territory of the Russian Federa-

tion, its constituent entities, municipalities, and the marine area situation within corresponding territorial units [3; 6; 10]. The goals and objectives of their socioeconomic development could be achieved with the efficient, integrated use of maritime space and protection of marine environment. The positioning of the objects of federal, regional, and local significance specified in these documents and funded by the state and municipalities should also be regulated by the same legislation.

4. Increasing efficiency of management of national natural reserves requires for marine management issues to be specifically targeted in strategic projects developed by the authorities of Russian constituent entities, namely:

- environmental protection programmes;
- programmes for the use and protection of water objects or their parts.

Such strategic documents should rely on two types of guidelines: on the one hand, they need to be based on strategic socioeconomic plans of a higher level; on the other hand, they must take into account the existing recommendations for using water objects within basin zones.

5. It has already been mentioned above that marine planning must take into account the objectives of a balanced management of natural reserves — those would include not only maritime activities, but also other types of marine and water management in general. It thus seems logical to call for improvement of the corresponding federal laws and legal acts of constituent entities of the Russian Federation and municipalities, which currently regulate such types of water use. Such improvement should provide better coordination of these legal documents with individual maritime activities in the framework of a comprehensive system of marine planning. Chapter 5 of the Water Code identifies the types of water use (including those within the marine area) regulated by federal laws in the following areas:

- fishing and aquatic biological resource conservation;
- environmental protection (managing sewage discharge, power generation);
- protection of natural recreational resources, development of recreational areas and resorts;
- hunting and conservation of hunting grounds;
- subsurface management (mineral prospecting and extraction);
- water transport;
- the use of water objects for aircraft take-off and landing.

The procedures of exploitation of water objects for the purposes of conservation of native habitats and traditional lifestyle of indigenous peoples of the North, Siberia, and Far East are developed in the Russian Federation at the level of individual federal subjects.

The issues of water objects (including sea-based objects) exploitation for recreation, sport, and tourism, as well as for various personal and domestic purposes are regulated by the rules formulated and approved by municipal bodies. Finally, Urban Development Code regulates the creation of major infrastructural objects, including beaches, in these areas.

The approaches to marine planning as detailed above and recommendations for improving the legislative framework suggest the following system of distribution of authority between administrative bodies concerning development of legally-binding and strategic documents on marine planning (see Table 2).

Authority Distribution between Administrative Bodies and the Development of Legislative and Strategic Documents on Marine Planning

Type of Governing Body	Mandate/Main Objectives re: Marine Planning
	<i>I. Federal level</i>
1. Federal Council	<ol style="list-style-type: none"> 1. Development of recommendations for regulating water management within water objects for certain basin zones. 2. Development and approval of a comprehensive system of exploitation and protection of water objects (within the whole basin zone, including the marine area).
2. Ministry of Natural Resources	<ol style="list-style-type: none"> 1. Hydrogeographic and water management zoning. 2. Maintaining a national water register. 3. Expanding territorial planning scheme in the field of development of specially protected territories (if applicable) 4. The interpretation of the Water Code as applied to the regulation of individual maritime activities and drawing up water use contracts (with a view of long-term marine planning outcomes).
3. Ministry of Emergency Situations	<ol style="list-style-type: none"> 1. The development of initiatives aimed at preventing the causes for natural disasters and anthropogenic emergencies in the marine area.
4. Ministry of Economic Development	<ol style="list-style-type: none"> 1. The development and implementation of target programmes in the field of exploitation and protection of the World Ocean. 2. The development of recommendations for expanding strategic planning documents, especially in terms of marine areas exploitation and planning (including strategies and programmes aimed at socioeconomic development)
5. Ministry of Regional Development	<ol style="list-style-type: none"> 1. Further development of the Urban Development Code of the Russian Federation along the lines of justification of proposed positioning of objects of federal, regional, and local importance in the marine area in the framework of marine planning. 2. Specification of construction procedures in the marine area. 3. The expansion of the federal territorial planning information system (its harmonisation with the results of marine planning results and the water register)

6. Other (federal ministries and agencies involved in marine area exploitation)	<ol style="list-style-type: none"> 1. Further development of territorial planning strategies in terms of defence, security, transport, energy, communications, and enhancement of natural monopoly infrastructure (the construction of major infrastructural objects in the marine area). 2. Further expansion of ground-level laws regulating the activities of relevant governmental structures in the field of marine planning.
<i>II. Regional level</i>	
1. Executive bodies of Russian federal subjects	<ol style="list-style-type: none"> 1. Development of programmes for exploitation and protection of water objects (including those in the marine area), and their harmonisation with the regional programmes for environmental protection. 2. Development of strategic planning documents based on an integrated approach to the exploitation of the coastal zone and marine area. 3. Further expansion of territorial planning strategies in the direction of their harmonisation with marine planning documents. 4. Development of safety rules and regulations for water-based infrastructural objects. 5. Development of small vessel navigation. 6. Development of water objects exploitation guidelines that would seek to protect native habitats and traditional lifestyle of the indigenous peoples of the North, Siberia, and Far East
<i>III. Local (municipal) level</i>	
1. District municipalities	<ol style="list-style-type: none"> 1. Further expansion of strategic planning documents, which would take into account the development of coastal zone and marine area. 2. Development of rules for exploiting water objects of communal use for domestic purposes.
2. Urban and rural municipalities	<ol style="list-style-type: none"> 1. Improvement of general spatial planning in terms of functional zoning and placement of objects of local importance in the marine area. 2. Further expansion of land use and development of rules regulating activities carried out in the coastal zone and marine area. 3. Establishing limitations of water objects exploitation

The approaches described above can only reflect a few of the possible ways to develop tools for marine planning, which include, but are not limited to: assessment of applicability of the existing legal framework for marine planning; further territorial development and strategic planning; and the possible distribution of authority between administrative bodies of different levels concerning this — relatively new — managerial activity.

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